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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : ROSS ET AL.  
Serial No. : 08/854,686 Examiner: A. Kashnikov  
Filed : May 12, 1997 Group Art Unit: 3752  
For : LIQUID DISPENSING APPARATUS HAVING A  
VIBRATING PERFORATE MEMBRANE

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

Pursuant to their duty of disclosure under 37

C.F.R. § 1.56, Applicants bring the following documents to the  
attention of the Examiner in the above-identified patent  
application:

1. U.S. Patent No. 2,779,623 issued January 29, 1957;
2. U.S. Patent No. 3,558,052 issued January 26, 1971;
3. U.S. Patent No. 3,738,574 issued June 12, 1973;
4. U.S. Patent No. 3,950,760 issued April 13, 1976;
5. U.S. Patent No. 3,983,740 issued October 5, 1976;
6. U.S. Patent No. 4,005,435 issued January 25, 1977;
7. U.S. Patent No. 4,119,096 issued October 10, 1978;
8. U.S. Patent No. 4,159,803 issued July 3, 1979;
9. U.S. Patent No. 4,240,081 issued December 16,

1980;

10. U.S. Patent No. 4,268,460 issued May 19, 1981;
11. U.S. Patent No. 4,300,546 issued November 17,

1981;

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12. U.S. Patent No. 4,301,093 issued November 17,  
1981;
13. U.S. Patent No. 4,334,531 issued June 15, 1982;
14. U.S. Patent No. 4,336,544 issued June 22, 1982;
15. U.S. Patent No. 4,338,576 issued July 6, 1982;
16. U.S. Patent No. 4,389,071 issued June 21, 1983;
17. U.S. Patent No. 4,408,719 issued October 11, 1983;
18. U.S. Patent No. 4,474,251 issued October 2, 1984;
19. U.S. Patent No. 4,474,326 issued October 2, 1984;
20. U.S. Patent No. 4,475,113 issued October 2, 1984;
21. U.S. Patent No. 4,539,575 issued September 3,  
1985;
22. U.S. Patent No. 4,544,933 issued October 1, 1985;
23. U.S. Patent No. 4,546,361 issued October 8, 1985;
24. U.S. Patent No. 4,591,883 issued May 27, 1986;
25. U.S. Patent No. 4,593,291 issued June 3, 1986;
26. U.S. Patent No. 4,620,201 issued October 28, 1986;
27. U.S. Patent No. 4,628,890 issued December 16,  
1986;
28. U.S. Patent No. 4,632,311 issued December 30,  
1986;
29. U.S. Patent No. 4,659,014 issued April 21, 1987;
30. U.S. Patent No. 4,681,264 issued July 21, 1987;
31. U.S. Patent No. 4,753,579 issued June 28, 1988;
32. U.S. Patent No. 4,793,339 issued December 27,  
1988;

33. U.S. Patent No. 4,796,807 issued January 10, 1989;  
34. U.S. Patent No. 4,799,622 issued January 24, 1989;  
35. U.S. Patent No. 4,850,534 issued July 25, 1989;  
36. U.S. Patent No. 4,865,006 issued Sept. 12, 1989;  
37. U.S. Patent No. 4,871,489 issued October 3, 1989;  
38. U.S. Patent No. 4,887,989 issued December 19,  
1989;  
39. U.S. Patent No. 4,976,259 issued December 11,  
1990;  
40. U.S. Patent No. 5,063,396 issued November 5, 1991;  
41. U.S. Patent No. 5,063,922 issued November 12,  
1991;  
42. U.S. Patent No. 5,076,266 issued December 31,  
1991;  
43. U.S. Patent No. 5,139,016 issued August 18, 1992;  
44. U.S. Patent No. 5,152,456 issued October 6, 1992;  
45. U.S. Patent No. 5,164,740 issued November 17,  
1992;  
46. U.S. Patent No. 5,198,157 issued March 30, 1993;  
47. U.S. Patent No. 5,297,734 issued March 29, 1994;  
48. U.S. Patent No. 5,299,739 issued April 5, 1994;  
49. U.S. Patent No. 5,487,378 issued January 30, 1996;  
50. English translation of Japanese Patent Application  
No. JP-A-61-215059 published September 24, 1986;  
51. WO 89/06147 published July 13, 1989;  
52. WO 93/01404 published January 21, 1993;

- 53. GB 2 240 494 A published August 7, 1991;
- 54. GB 2 073 616 A published October 21, 1981;
- 55. GB 2 101 500 A published January 19, 1983;
- 56. U.K. patent specification 973,458 published October 28, 1964;
- 57. Switzerland 477885 dated October 31, 1969;
- 58. European Patent Application 0 178 925 A2 published April 23, 1986;
- 59. Berglund et al., *Generation of Monodisperse Aerosol Standards*, Environmental Science Technology, Vol. 7, Number 2, pp. 147-153 (Feb. 1973);
- 60. TSI catalogue entitled *Vibrating Orifice Aerosol Generator*;
- 61. W. R. Wehl, *Ink-Jet Printing: The Presentation of the Art*.

A PTO-1449 form (pages 1-3) is included herewith listing these documents (1-61), and a copy of each of these documents (1-61) is attached.

The following documents were made of record during the original prosecution of this application:

- 62. U.S. Patent No. 3,790,079 issued February 5, 1974;
- 63. U.S. Patent No. 3,804,329 issued April 16, 1974;
- 64. U.S. Patent No. 3,812,854 issued May 28, 1974;
- 65. U.S. Patent No. 3,958,249 issued May 18, 1976;
- 66. U.S. Patent No. 4,261,512 issued April 14, 1981;

67. U.S. Patent No. 4,294,407 issued October 13, 1981;
68. U.S. Patent No. 4,368,476 issued January 11, 1983;
69. U.S. Patent No. 4,431,136 issued February 14,  
1984;
70. U.S. Patent No. 4,465,234 issued August 14, 1984;
71. U.S. Patent No. 4,479,609 issued October 30, 1984;
72. U.S. Patent No. 4,530,464 issued July 23, 1985;
73. U.S. Patent No. 4,533,082 issued August 6, 1985;
74. U.S. Patent No. 4,550,325 issued October 29, 1985;
75. U.S. Patent No. 4,605,167 issued August 12, 1986;
76. U.S. Patent No. 4,702,418 issued October 27, 1987;
77. U.S. Patent No. 4,790,479 issued December 13,  
1988;
78. U.S. Patent No. 4,828,886 issued May 9, 1989;
79. U.S. Patent No. 4,888,516 issued December 19,  
1989;
80. U.S. Patent No. 5,021,701 issued June 4, 1991;
81. Great Britain patent application no. 1,454,597  
dated January 1976;
82. Great Britain patent application no. 2,177,623  
dated January 1987;
83. European patent application no. 0 134 847 A dated  
1985;
84. Japanese patent application no. 58-62,411 dated  
April 1983; and

85. WO 92/11050 published July 9, 1992;
86. European Patent Application 0 480 615 A1 published April 15, 1992;
87. European Patent Application 0 049 636 A1 published April 14, 1982;
88. Stork Veco, *The Precision Metal Masters*;
89. Stork Veco, *Electroforming*;
90. N. Maehara et al., *Influence of the Vibrating System of a Multipinhole-plate Ultrasonic Nebulizer on Its Performance*, Rev. Sci. Instrum., Vol. 57, Number 11, pp. 2870-2876 (November 1986);
91. S.C. Yao, *Development of a Controlled Spray Generator*, Rev. Sci. Instrum., Vol. 58, Number 7, pp. 1291-1296 (July 1987); and
92. T. Allen, *Particle Size Measurement*, 3rd Edition 1981, pp. 167 and 169.

A PTO-1449 form (pages 4 and 5) is included herewith listing these documents (62-92). A copy of each of these documents is not attached pursuant to 37 C.F.R. §1.98(d), because they are of record in the patent application for the patent upon which this Reissue application is based. The relevance of these documents (62-92) appears to be the same as that represented to be the relevance in the application which issued as U.S. Patent No. 5,261,601 in view of the common subject matter between the cases.

The following documents were made of record in the Junior Party's currently pending U.S. Application involved in interference number 103,704 with the patent from which this reissue application is filed:

93. Japanese patent application no. 57-23,852 dated February 1982;

94. Japanese patent application no. 2-135,169 dated May 1990;

95. Japanese patent application no. 58-139,757 dated August 1983;

96. Japanese patent application no. 2-189,161 dated July 1990;

96. S. Ueha et al., *Mechanism of Ultrasonic Atomization using a Multi-Pinhole Plate*, J. Acoust. Soc. Jpn. (E) 6, 1:21 (1985);

97. N. Maehara et al., *Optimum Design Procedure for MultiPinhole-Plate Ultrasonic Atomizer*, Japanese J. of Applied Physics 26:215 (1987);

98. H. Hikayama et al., *Ultrasonic Atomizer with Pump Function*, Tech. Rpt. IEICE Japan US88-74:25 (1988);

99. J. Acoustical Soc. Japan 44:2:116 (1988);

100. J. Acoustical Soc. Japan 44:6:425 (1988);

101. Gaiser Tool Company Catalog, pp. 26, 29-30; and

102. T. Nogi et al., *Mixture Formation of Fuel Injection System in Gasoline Engine*, Nippon Kikai Gakkai Zenkoku Taikai Koenkai Koen Ronbunshu 69:660 (1991).

A PTO-1449 form (page 6 of 6) is included herewith listing these documents, and a copy of each of these documents (93-102) is not attached. The relevance of these documents (93-102) is not known, because the ordered file wrapper received from the U.S. Patent and Trademark Office for the Junior Party's application in Interference No. 103,704 did not include copies of these documents (93-102) cited therein.

A first Official Action has not yet issued for this application. Therefore, it is respectfully urged that no fees are required for the Examiner's consideration of the documents listed in this Information Disclosure Statement. Further, Applicants respectfully request that these documents be made officially of record, and that a listing of the same appear on the face of any patent which may issue from this application.

Respectfully submitted,

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